

What Is Claimed Is:

1. A component, particularly a sensor element (1), having a substrate (4) used as support and a silicon layer (2), in which the component structure is formed, the component structure including at least one fixed element, particularly an electrode (6), wherein the fixed element (6) is mechanically connected to the substrate (4) via at least one anchoring element (7) made of an anchoring material and extending through the silicon layer (2).
2. The component as recited in Claim 1, the silicon layer (2) being connected to the substrate (4) via a sacrificial layer (3), wherein the fixed element (6) is mechanically connected to the substrate (4) via at least one anchoring element (7) made of an anchoring material and extending through the silicon layer (2) and the sacrificial layer (3).
3. The component as recited in one of Claims 1 or 2, wherein the anchoring element (7) is located essentially at the center of the surface of the fixed element (6).
4. The component as recited in one of Claims 2 or 3, wherein the anchoring element has a barbed structure in that it extends in the area of the sacrificial layer to below the silicon layer.
5. The component as recited in one of Claims 1 through 4, the anchoring element (7) being used for anchoring an electrode (6), wherein the anchoring material is electrically non-conductive.
6. The component as recited in Claim 5,

wherein the surface of the electrode in at least one region around the anchoring element (7) features a coating (8) made of anchoring material.

7. The component as recited in Claim 6, the coating (8) extending essentially over the entire surface of the electrode,  
wherein at least one contact hole (9) is formed in the coating (8) for the electrode (6), and the contact hole (9) is located outside of the region of the anchoring element (7).

8. The component as recited in one of Claims 5 through 7, wherein a cap diaphragm (14) is formed on top of the component structure, the at least one electrode (6) is electrically contacted via the cap diaphragm (14) and the cap diaphragm (14) is mechanically connected to the substrate (4) via the anchoring element (7).

9. The component as recited in one of Claims 1 through 8, wherein silicon nitride SiN or silicon carbide SiC is used as anchoring material.

10. A method for manufacturing a component, particularly a sensor element (1), as recited in one of Claims 1 through 9, in which the component structure, including at least one fixed element, particularly an electrode (6), is produced in a silicon layer (2), the silicon layer (2) being connected to a substrate (4) via a first sacrificial layer (3),  
wherein

- in the area of the surface of the fixed element (6), at least one recess is made in the silicon layer (2), which extends through the entire silicon layer (2) and the first sacrificial layer (3) down to the substrate (4) and
- the recess is filled with an anchoring material, so that the fixed element (6) is mechanically connected to the

substrate (4) via the anchoring element (7) that is thereby created.

11. The method as recited in Claim 10, wherein the recess in the silicon layer (2) is produced in an anisotropic etching process, particularly by trenching.

12. The method as recited in one of Claims 10 or 11, wherein the first sacrificial layer (3) in the area of the recess is removed in an anisotropic etching process, particularly by trenching.

13. The method as recited in one of Claims 10 or 11, wherein the first sacrificial layer in the area of the recess is removed in an isotropic etching process, in which the edge region of the recess is undercut in the silicon layer.

14. The method as recited in one of Claims 10 through 13, wherein the anchoring material is deposited on the silicon layer (2) in such a way that it grows on the substrate (4) in the area of the recess and fills the recess, and the anchoring material coating (8) of the silicon layer (2) thereby created is at least partly removed again.

15. The method for manufacturing a component having a cap diaphragm (14) as recited in one of Claims 10 through 14, wherein

- on top of the component structure that is defined in the silicon layer (2) and in which at least one electrode (6) having the at least one anchoring element (7) is already formed, a second sacrificial layer (11) having a continuous surface is produced,
- the second sacrificial layer (11) is patterned, the second sacrificial layer (11) being removed in the area of the

anchoring element (7) and in the area of at least one contact point (9) on the surface of the electrode,

- a diaphragm layer (14) is produced on top of the patterned second sacrificial layer (11),
- the diaphragm layer (14) is patterned, openings (15) being created for removing the second and possibly also the first sacrificial layer (11, 3), and openings (16) being created, through which the electrical connection of the electrode (6) to the diaphragm layer (14) is electrically insulated from the remaining areas of the diaphragm layer (14), and

at least the second sacrificial layer (11) is removed.

16. The method as recited in Claim 15, wherein the diaphragm layer (14) is produced from polysilicon or from SiGe.

17. The method as recited in Claim 15, the diaphragm layer being grown epitactically from polysilicon.

18. The method as recited in Claim 17, wherein the diaphragm layer (14) is patterned using trench etching.

19. The method as recited in one of Claims 15 through 18, wherein the second sacrificial layer (11) is produced from silicon oxide SiO<sub>2</sub>, and the second sacrificial layer (11) is removed using HF vapor etching.